

**In the claims:**

Please amend the claims as follows:

1. **(Currently amended)** A crystal of a core RNA polymerase (RNAP) from a ~~eukaryote or prokaryote~~ that effectively diffracts X-rays for the determination of the three-dimensional atomic coordinates to a resolution of better than 3.5 Angstroms.
2. **(Previously presented)** The crystal of claim 1, wherein the core RNA polymerase is from a prokaryote and is a bacterial core RNA polymerase.
3. **(Previously presented)** The crystal of claim 2, wherein the bacterial core RNA polymerase is a thermophilic bacterial core RNA polymerase.
4. **(Previously presented)** The crystal of claim 3, wherein the thermophilic bacterial core RNA polymerase is a *Thermus aquaticus* bacterial core RNA polymerase.
5. **(Previously presented)** The crystal of claim 1, wherein the core RNA polymerase comprises a  $\beta'$  subunit, a  $\beta$  subunit, and a pair of  $\alpha$  subunits.
6. **(Previously presented)** The crystal of claim 5, further comprising an  $\omega$  subunit.
7. **(Previously presented)** The crystal of claim 1 that effectively diffracts X-rays for the determination of the three-dimensional atomic coordinates of the core RNA polymerase to a resolution of 3.3 Angstroms or better.
8. **(Previously presented)** The crystal of claim 7 having space group of P41212 and a unit cell of dimensions of  $a=b=201$  and  $c=294$  Å.

**Claims 9-22 (Canceled)**

23. **(Withdrawn)** A crystallized polypeptide comprising: (a) at least one of the amino acid sequences set forth in SEQ ID NO: 1 or SEQ ID NO: 2 or SEQ ID NO: 3; or (b) an amino acid sequence that is substantially similar to at least one of the amino acid sequences set forth in SEQ ID NO: 1 or SEQ ID NO: 2 or SEQ ID NO: 3; and has at least one biological activity of a core RNA polymerase from

*Thermus aquaticus* wherein the polypeptide of (a), (b) or (c) is in crystal form and wherein said crystallized polypeptide diffracts x-rays to a resolution of about 3.5 Å or better for the determination of the three-dimensional atomic coordinates of said core RNA polymerase.

24. **(Withdrawn)** The crystallized polypeptide of claim 23, wherein said crystallized polypeptide comprises an amino acid sequence that has at least about 80% sequence homology to at least one of the amino acid sequences set forth in SEQ ID NO: 1 or SEQ ID NO: 2 or SEQ ID NO: 3.
25. **(Withdrawn)** The crystallized polypeptide of claim 23, wherein said crystallized polypeptide comprises an amino acid sequence that has at least about 85% sequence homology to at least one of the amino acid sequences set forth in SEQ ID NO: 1 or SEQ ID NO: 2 or SEQ ID NO: 3.
26. **(Withdrawn)** The crystallized polypeptide of claim 23, wherein said crystallized polypeptide comprises an amino acid sequence that has at least about 90% sequence homology to at least one of the amino acid sequences set forth in SEQ ID NO: 1 or SEQ ID NO: 2 or SEQ ID NO: 3.
27. **(Withdrawn)** The crystallized polypeptide of claim 23, wherein said crystallized polypeptide comprises an amino acid sequence that has at least about 95% sequence homology to at least one of the amino acid sequences set forth in SEQ ID NO: 1 or SEQ ID NO: 2 or SEQ ID NO: 3.
28. **(Withdrawn)** The crystallized polypeptide of claim 23, wherein the crystal has a P41212 space group.
29. **(Withdrawn)** The crystallized polypeptide of claim 23, which diffracts x-rays to a resolution of about 3.3 Å or better.
30. **(Withdrawn)** The crystallized polypeptide of claim 23, wherein the polypeptide is derivatized with at least one heavy metal atom.
31. **(Withdrawn)** The crystallized polypeptide of claim 30, wherein the polypeptide is derivatized with selenium.

32. **(Withdrawn)** The crystallized polypeptide of claim 30, wherein the polypeptide is derivatized with one of the following: mercury, lead, or tantalum.
33. **(Withdrawn)** The crystallized polypeptide of claim 23, further comprising a cryoprotectant.
34. **(Withdrawn)** The crystallized polypeptide of claim 28, wherein said cryoprotectant is sucrose.